

## LISTING OF CLAIMS

1-56. (canceled)

57. (currently amended) A transgenic ~~non-human animal~~ mouse comprising in its genome a human kappa light chain immunoglobulin transgene, said transgene ~~comprising a plurality of~~ containing five human light chain ~~V~~ V<sub>K</sub> ~~genes-segments~~, a plurality of human light chain ~~J~~ J<sub>K</sub> ~~genes-segments~~, and a human light chain ~~C~~ C<sub>K</sub> ~~gene segment~~, which ~~sequences~~ segments are operably linked to transcription regulatory sequences and undergo rearrangement in B lymphocytes *in vivo* to produce a repertoire of rearranged transgenes encoding a plurality of human kappa light chain polypeptides, which human kappa light chain polypeptides are produced in said transgenic ~~non-human animal~~ mouse.

58. (canceled)

59. (currently amended) The transgenic ~~non-human animal~~ mouse of claim 58 ~~57~~, wherein said transgene further comprises a human 3' kappa enhancer segment.

60. (currently amended) The transgenic ~~non-human animal~~ mouse of claim 59, wherein the human 3' kappa enhancer segment is a 4 kb BamHI fragment containing the human 3' kappa enhancer.

61. (currently amended) The transgenic ~~non-human animal~~ mouse of claim 57, wherein said ~~animal~~ mouse further comprises an inactivated endogenous mouse kappa light chain immunoglobulin gene locus.

62-63 (canceled)

64. (currently amended) A transgenic ~~non-human animal~~ mouse comprising in its genome a human kappa light chain immunoglobulin transgene, said kappa light chain transgene comprising a plurality of containing five human light chain  $\forall$  V $\kappa$  genes segments, a plurality of human light chain  $\exists$  J $\kappa$  genes segments, and a human light chain  $\in$  C $\kappa$  gene segment, which sequences segments are operably linked to transcription regulatory sequences and undergo rearrangement in B lymphocytes *in vivo* to produce a repertoire of rearranged transgenes encoding a plurality of human kappa light chain polypeptides, which human kappa light chain polypeptides are produced in said ~~non-human animal~~ mouse, wherein said transgenic ~~non-human animal~~ mouse further comprises a human heavy chain immunoglobulin transgene that produces a repertoire of human heavy chain polypeptides that pair with said kappa light chain polypeptides to form a repertoire of human immunoglobulins in said ~~non-human animal~~ mouse.

65. (canceled)

66. (currently amended) The transgenic ~~non-human animal~~ mouse of claim 65 ~~64~~, wherein said human kappa light chain immunoglobulin transgene further comprises a human 3' kappa enhancer segment.

67. (currently amended) The transgenic ~~non-human animal~~ mouse of claim 66, wherein the human 3' kappa enhancer segment is a 4 kb BamHI fragment containing the human 3' kappa enhancer.

68. (currently amended) The transgenic ~~non-human animal~~ mouse of claim 64, wherein said ~~animal~~ mouse further comprises an inactivated endogenous mouse kappa light chain immunoglobulin gene locus and an inactivated endogenous mouse heavy chain immunoglobulin gene locus.

69-70. (canceled)

71. (currently amended) The transgenic ~~non-human animal~~ mouse of claim 64, which produces antigen-specific human immunoglobulins when said transgenic ~~non-human animal~~ mouse is immunized with an antigen.

72-75. (canceled)

76. (new) The transgenic mouse of claim 57, wherein the five human light chain Vk segments are L15, L18, L24, A10 and A27.

77. (new) The transgenic mouse of claim 64, wherein the five human light chain Vk segments are L15, L18, L24, A10 and A27.

78. (new) The transgenic mouse of claim 57, wherein the human kappa light chain immunoglobulin transgene is created by co-injection into a pronucleus of a mouse embryo of a yeast artificial chromosome (YAC) comprising multiple human Vk segments and at least one human immunoglobulin transgene comprising at least one human Vk segment, wherein the mouse embryo develops into said transgenic mouse.

79. (new) The transgenic mouse of claim 78, wherein the YAC comprises at least 32 different Vk segments.

80. (new) The transgenic mouse of claim 78, wherein the human kappa light chain immunoglobulin transgene is created by co-injection into a pronucleus of a mouse embryo of a YAC comprising multiple human Vk segments, a first human immunoglobulin transgene comprising four human Vk segments and a second human immunoglobulin transgene comprising one human Vk segment, five human Jk segments, a human intronic enhancer, a human Ck and a human 3' kappa enhancer.